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" Salvation of India lies in Cottages."

—*MAHATMA GANDHI*

WHITHER 'RAM RAJYA'

THE ideal that inspired generations of people during long years of freedom's fight was the establishment of 'Ram Rajya' in this country. The Father of the Nation was never tired of placing the ideal before the people, as it embodied all the contents of a just, benevolent and progressive rule with which the people of this country were traditionally familiar. Nothing could have inspired the people for long and sustained sacrifices and dedication to the cause of national freedom than to see their cherished ideal of 'Ram Rajya' come true, which to them was the be-all and end-all of their deepest national aspirations.

But the 'Swarajya' in reality that they have seen and experienced after Independence virtually turned out to be the negation of all that they had hoped for and cherished in pre-independence days. 'Swaraj' or 'Ram Rajya', as the people thought, was to usher in a new era of elevation of national character, benevolent and progressive rule and increasing prosperity and happiness to the people after centuries of privation and oppression under foreign domination. Who could have thought then that their own rule would be divorced of their best aspirations and would present a distressing picture of universal demoralisation, political gangsterism, corruption, favouritism, and all-round scarcity conditions accompanied with ever increasing burden of taxation. That is something quite opposed to 'Ram Rajya', they had hoped for.

Lost Moorings

Obviously, the Congress leadership that took up the reigns of administration after the advent of power failed to stick up to the great principles of 'Truth and Non-violence' enunciated by the Father of the Nation. Nor did they adopt and follow any new principles of their own to mould the life of the Nation and to conduct the affairs of the State. Political expediency usurped the place of moral principles in the administration of the country and the decline in moral standards and values that followed was only a necessary corollary.

The religion that moulded the life and character of the people and inspired them to uphold high moral principles was tabooed by our Secular State. In effect Secular State has become synonymous with irreligious State divorced of moral values. While the State professes to be concerned about raising the economic or the standard of living of the Society through a series of Plans, it has no plan to build up 'National Character', which is the 'Sine qua non' of a nation's development.

The discipline of mind that adherence to a religious faith or moral values of life inculcates in a society provides the real basis on which a nation could grow. It is rather unfortunate that the leaders of our Secular State have missed the very basis on which the superstructure of building a great nation could be raised.

All-round fall of standards

Decline in moral values has its repercussions in all other aspects of national life. Moral anarchy which is the result of loss of faith and higher values of life must of necessity breed vices of pettiness, selfishness, mutual rivalry and pulling down others for personal gain which afflict the entire socio-polical structure of our country today. It is a vain persuit of the rulers to expect to raise economic or living standard of the society in the face of universal frustration, dejection and dis-spiritedness with which the climate of the country is full. It is time for re-thinking not only on the future of the Second Plan, as lately stated by the Planning Minister in the Lok Sabha, but on the basic conceptions of the ruling party regarding the State, its policies and their healthy effect on moral, psychological and all-round development of the people.

Their present conceptions and policies are completly at variance with the spirit of 'Ram Rajya' or the spiritual traditions of this country as revived and taught by the Father of the Nation in our own times. They seem to discard the spiritual and cultural heritage of this land of Ram, Krishna, Buddha and Gandhi in imitating and borrowing modern conceptions of Secularism, Parliamentary Democracy and Socialist Pattern of Society with which the spirit of the people is definitely in revolt. They have set an impossible task of developing external conditions without any effort to elevate human personality in the spirit of age-old culture and heritage of this country. Obviously, such a mis-directed effort does not and cannot promise success.

Spirit Giveth Life

The revival of spirit, on which the development of the people basically depends, could only be brought about through idealism and culture ingrained among the people. The associations and inspirations that rise in the minds of the people by the ideal of 'Ram Rajya' are impossible to be replaced by any modern and borrowed ideal of the West, whether Cooperative Comonwealth, Welfare State or the latest 'Socialistic Pattern of Society" adopted by the present rulers. It is no wonder that these borrowed conceptions being at variance with the spirit and culture of the country only create confusion and bewilderment in the minds of the people without being digested and assimilated by them.

Twelve years is a pretty long time for our present rulers to realise the reactions of their misconceptions and to revert to the spirit and ideal of 'Ram Rajya' which alone promises good and benevolent rule to the people of this country.

OUR AGRICULTURAL PROBLEMS AND AN INTERNATIONAL EXPERT

By: **MAHESH CHAND**

TENTH Session of the International Conference of Agricultural Economists concluded recently at Mysore. About 350 experts from seventy countries are reported to have participated in its deliberations. The Conference was held at the joint invitation of the Ministry of Food and Agriculture, Government of India and the Indian Society of Agricultural Economics. The Conference considered the problems of balance between agriculture and other activities in the process of the economic growth of States and the development of a sound world economy. The author in this article points out what the real problems of the Indian peasantry are and how the President of the Conference failed to consider certain important factors in regard to agricultural problems obtaining in the Asian countries with particular reference to India.

The tenth conference of world agricultural economists held in Mysore was the first full attempt to focus the attention on agricultural problems obtaining in Asian countries. The Indian problems naturally got predominance not only in what our Ministers said but also in what was spoken by the President of the

Conference, Mr. L. K. Elmhirst. The changing fortunes of agriculture in a region may be due to world wide trends or, in a region, due to internal problems social, economic and administrative. So far as our farmers are concerned, they have been receiving less than what they have contributed; also they have not been enabled to produce more. Those living in the urban areas as also the potential leaders in the rural areas have not worked in the interest of the lagging peasantry. Even the rural intelligentsia has gone the way of helping the urban communities. Those deputed to serve the peasants at the cost of the tax payers have been more inclined to be lax, in attentive and inefficient in the discharge of their duties. Partly, no doubt, the duties have been too heavy to cope with and partly because politics has been allowed to influence their life and work.

Mr. Elmhirst mentioned the utmost need for a flow to the rural people of roads, water-supplies, transport and marketing facilities as also services of education, health and communication. But when he spoke in the context of India he receded back in his sympathy for the peasants. For, he said that a full range of improvements and services could not be provided until the First, the Second and perhaps the Third five year plans for industrial and urban developments were completed. He elaborated his views by saying that "something practical and limited can be done immediately but research, survey and organisation are pre-requisites to any large investment of capital." Hence he pleaded for a sympathetic look at the progress of our plans. The attitude of complacency cannot be tolerated. The emphasis of industrial and urban development is apt to be interpreted to mean industrial development in urban areas, for he said, "Can the new industries and the services that go with them syphon off some of this (labour) potential? Can all the rural areas be so linked with their appropriate urban centres that a new and a two-way service may develop between them"? This doubt—this scepticism seems to arise from what Mr. Elmhirst later admitted that the idea of mutual service between urban and rural centres did not obtain in the West. But he was not new to this country and we did not expect that he would skip giving detailed opinion based on his knowledge of India. Or, was he only arousing curiosities of the Delegates!!

We expected he would emphasize whether or not industrial development should be planned in the rural areas themselves. We have been continuously in favour of such development. It is ten years since when Allahabad University teachers and also an I. C, S. officer had emphasized the need for balanced economy for small groups of villages. "Poverty and Social Change" and "Our Agricultural Plan" were two publications which drew the attention of our agricultural economists and politicians and told them where the solution to our ills lay. One hopes that Mr. Elmhirst is not unaware of these ideas and one wishes that instead of the neutral academic stand taken by him he had expressed his opinions based on his long and wide experience in countries including India.

For sometime there has been some talk of an incentive income ratio between agriculture and industry. Introduction of urban attractions and conversion of agriculture from 'a way of life' to 'a way of business' were two main suggestions emanating from the writings of Bellerby and others, while education, transport facilities and an opportunity to enter a non-agricultural career in the rural area itself are more desirable from commonsense point of view. It was of little help to hear an expert pose a question and answer it by saying merely that "with the right kind of help they (i.e., the rural people) can gain these services and find for themselves the road to an abundant life based on sound economics". We expected that he would indicate the directions and the spots where we were

lacking. His indications would become benchmark for other agricultural economists to judge what they see when they go round India. But perhaps, an international conference President cannot be expected to be so partial to India.

Mr. Elmhirst mentioned the wisdom of multiple land use, an idea being experimented upon in the Damodar Valley Corporation but has reserved judgement on the scope of success in view of the implied necessity of delegation of the responsibilities by the State to "appropriate local boards, bodies or trusts, companies, co-operatives, collectives, corporations or individuals". We hope he is aware of the view that economic development has been retarded in the under-developed countries partly due to the specific nature of the past contact with advanced countries which meant oppression and exploitation instead of genuine co-operation and assistance. In the West the merchant class played a leading role—explicitly or implicity—in bringing about an agricultural revolution and in undoing the acts of bureaucracy. Our Prime Minister referred to the complacency that engulfed him and his co-workers due to favourable monsoon harvests of the first five year plan period. A lot of it was due to the bureaucrats and to the merchants. While the former indulged in patting their own backs, the latter silently watched on with an eye on their individual profits. One wishes Mr. Elmhirst had turned his lights in this direction and said something to stir up bureaucracy and the merchants to constructive activity, if he thought that in Asian countries these have come to hold important roles.

It is admitted from different platforms now that in order to increase food production speedily we need to use wells and tanks, good seeds, good manuring practices and so on. The bureaucrats have failed to deliver the goods. The merchants could, but they were not sentimentally roused and led. Why they have not been so roused ? One answer is that politicians comprise the root-cause and we expected Mr. Elmhirst would hazard an opinion. He mentioned 'organisation' at one place and we wish he had dilated on it. Jawaharlal Nehru said that our peasants lacked initiative born of poverty and habits from British times. Is it the whole truth ? Or is the lack of initiative also due to the type of leadership the peasantry has been experiencing during the present times ? Mr. Elmhirst could have provided (*or hazarded* ?) a solution to the statement. All those who cannot show progress in the condition of the poorest in the villages and the most helpless in the urban areas must he fired. No evaluation being practised in India seems to accept this criterion.

"IMPACT OF FORE GN CAPITAL"

By : **A. N. RAJAMANI**

Recognition for Transference of Capital

THE end of the Second World War left an unedifying spectacle in almost all the ravaged countries of Europe and Asia. This was in addition to the other undeveloped and underdeveloped countries which were already groaning for advancement. All these countries required large quantities of capital for their reconstruction and development. It was, therefore, considered essential that capital should flow out from the rich to the poor countries. The Bretton Woods Agreement of July 1944 provided for this

by establishing, *inter alia*, the International Bank for Reconstruction and Development. Thus the necessity for the transference of capital from the advanced to the backward countries acquired international recognition.

Basis of Transference

This recognition gave rise to other institutions sueh as the International Monetary Fund, the UNESCO, the Technical Assistance Schemes, the Colombo Plan, the Marshall Aid, the Point Four Truman Programme etc. The burden of all these schemes and programmes was to rush monetary assistance to the needy countries. Indeed, these were and are bold attempts to establish above all else economic relationships between different countries irrespective of their creed or colour. In other words, capital transference became very significant for its fostering international relationships on the basis of mutual understanding and human sympathy.

Spirit of the Age

More than the European countries, the underdeveloped countries of Asia derive a large measure of benefit out of this timely recognition. As a matter of fact, our own country, India, has adopted the system of planned ecooomic progress for regularizing stability and betterment. And this planned economy is sought to be launched on the strength of the available internal capital resources, and by meeting the gaps, if any, with the help of external capital. Therefore, we have made bold to tresspass on the kindness and generosity of the nations friendly to us for import of capital. We receive foreign capital not only through the international agencies, but also at the governmental levels, and from the private sources. They supplement each other. In short, it is the spirit of the times tending to the shrinkage of national barriers for movement of capital that renders possible upliftment of the backward countries.

Corrective to Unbalanced Growth

Thus the growth of the backward countries is definitely promoted by capital formation from within and capital transference from outside the countries. It is the concerted global endeavour that paves the way for rapid, paced and equal progress in all the underdveeloped countries of the world. In a way, this serves to counter-act the lop-sided progress of many countries in the past. As an instance in point, India was throughout the centuries on end swept over by ideas of spiritual progress, with the result, the material progress was neglected. This is in contrast to countries like the United States which all along leaned too heavily on material philosophy to the exclusion of thoughts on the inner development of man. Hence, as far as the economically backward countries are concerned, the transference of capital to them acts as a corrective to their lop-sided progress of the past.

Its Three-Pronged Effects

Here then lies the significance of the transference of capital. The nature of its impact may be many and varied. It affects as much the social and the political aspects of the life in the receipient country as it does its economic aspect. But the extent to which the impact is felt is conditioned by the element of time as well as by the genious for assimilability of the beneficiary. But there are certain agencies like the government and the social organizations of the capital-receiving country, which may come in between the foreign capital and its impact; for this is dependant on the gradations of cultural, political and economic differences between the countries concerned. If there is too much of differenee, the intermediary agencies may avoid the risk of too sudden a change to develop.

Economic Effects

But how does capital transference come to effect changes? Economically viewed, capital accumulation of the rich countries gets spread over a wider area covering all economically backward areas. This process leads to two results: Inequality in the possession of vast capital accumulation is reduced, relatively if not absolutely, among the countries of the world on account of the outward flow from the rich countries. Secondly it helps economic growth in the capital-poor countries, that is to say, it multiplies itself. In the long run, the corollary is, the total volume of the world's capital will increase. For instance, capital transference, coupled with adoption of technological advancements on land in backward areas, will result in the augmentation of agricultural production. In addition, it tends to bring about an economic equality—equality in the sense that disparity is narrowed down-in the world in the long run.

Economic History

The existence of a sturdy economy in the U. S. S. R. at the present day is partly due to the import of foreign capital in between the Two World Wars. The remarkable economic recovery of the Post-War Germany is an effective example for the wholesome impact of foreign capital. The development of the Indian economy, adverted to elsewhere, also speaks of this. Even the position of England as the Banker of the World resulted out of the movement of foreign capital into her territory during the course of her Colonial expansion. The present day economic History of Turkey too reveals this.

Conditionality of Economic Impact

However, its effect is subject to the volume of capital transferred and the best use it is put to in the backward countries. If the imported capital is appropriated as consumer's capital (that is, finished goods on which consumers live, viz. houses, clothes, food, etc.), then, it may not mean much, and the significance may be lost. If it is utilised as producer's capital (that is, as aiding labour, viz. tools, machines, factories, railways, stocks, ships etc.), it may become invaluable, for this directly promotes economic growth. Therefore, the way the foreign capital is used up, will condition the range and depth of effects on the recipient economy.

Long-Term and Short-Term Effects

But in evaluating the effects of foreign capital, we must bear in mind another factor. It is this: It is *ipso facto* true to say that the immediate impact of the import of capital will be for the consumption level to jump up. Perhaps this is inevitable since the majority of the world's population lead only a sub-normal existence. As such the economic impact of the transference of capital can be broadly divided into short-term and long-term effects. In the long-run, it may be assumed, that the import of capital will find a better way to work itself out. Hence, rccording to the nature of the needs of the importing country, the texture of capital will also change.

Social and Cultural Effects Two-way Traffic

When capital travels across geographical frontiers, it carries on its wings the seeds of social and cultural transformation. The mobility, along with capital, of, say, some technical personnel, will speed up this process of transformation among the transferees. They become the radiators of their civilization. Fashions change. Religious beliefs alter. Tradition becomes violated. The transferred capital increases the standard of living and enables this change to take place. The foreign folk reinforce this change induced by capital. But this change

two-way traffic. Assimilation ultural pattern may be on both The result is a slow dissolution of national differences.

India's Cultural History

Indian History is replete with periods when such social and cultural changes had occurred as a result of capital transference through trade and commerce. The formation of Greater India, that is, the foundation of Hindu Kingdoms in the East Indies (Indonesia) and Indo-China between the First and the Ninth centuries A.D. was the outcome of centuries of individual enterprise in pre-Christian times. It was the attraction of capital accumulation that motivated those individual entreprenuers into trade and commerce, which happily culminated in the spread of the Indian civilization outside India. This led to racial fusion and evolution of composite culture. The colonies, sandwitched as they were between the great civilizations of India and China, drew abundant inspiration and guidance for their temporal and spiritual progress from the two worthy countries flanking them. In effect, it is the transfer of capital that lay at the root of all these social and cultural efflorscence.

Bridges the Orient with the Occident

Even in the present day India, the search for foreign capital has prevailed on our government to send out many delegations, and the foreign countries send in their own teams of experts to survey the field of capital investment. This meeting of peoples on the point of capital transfer generates a measure of cultural understanding and social comprehension between the two. This engenders unity of outlook and elevation of mankind. Viewed this way, capital transference, more than any philosophy or politics, serves as an essential and solid bridge between the orient and the occident, between the backward and the forward.

Political Impact

Political History of India

The political effects of capital transference may also be far reaching. Historically it is evident that it was the irresistible attraction of the inestimable capital wealth of India that caused many an invasion on our territory. All the intruders on our soil, right from the Mongols down to the Europeans, were banking upon the transferability of the Indian capital. The persistent attack on the famous Somnath Temple is proverbial. Abundant capital was the star attraction there. For the same reason, the Englishmen came into India. It was the Dispensation of Providence that made something like a chartered progress for their conquest of India: Trade, Fort and Territory. Thus the progenitor of the British Polity in India was capital its transferability and transference. This is India's recorded political history of its influence.

Record of England

Even England, which was ushered first in the Era of Industrial Revolution, did not go without feeling the wonderful effects of transferred capital. For one thing, it put her ahead of others in reaping the fruits of Industrial Revolution. For another, it gave birth to an increasing voice within for widening of political rights. The political significance of these happenings in England owe their paternity entirely to the capital transferred from the impoverished colonies. Capital became the matrix of all political activity.

German Record

As a mattar of fact, the heavy reparations capital export—demanded of Germany after the end of the First World War was alleged to have been one of the chief causes for the rise of Herr Hitler from among the disgruntled

German nationals to become the greatest menace to peace and security of the world. Our memory is still afresh with the calamitous political consequences of the demand for capital export.

Charge of Creating Cleavages

One severe criticism levelled against the movement of capital across political frontiers now-a-days is that it is strongly admixtured with political ideologies. Capital transference is said to be one of the most powerful media of propagation of political ideas. Both the U. S. S. R. and the U. S. A. are accusing each other of exploiting the capital-needy countries in this respect. And this is taken to explain the ripping up of the world into two diametrically opposed ideological camps : Communism and Capitalism. In other words, capital is charged with intensifying this conflict.

Charge Unmeaningful

But the gravity of this charge against the movement of capital loses its force when tested against reality. For, countries like India which receive foreign aid extensively without any 'strings' whatever attached thereto, knock the bottom out of this misconceived charge. As yet the fundamental principles of the Foreign Policy, say, of India do not seem to have been compromised. Neither for that matter has the sovereignty of the country been downgraded. The absence of any deviation or swerve in our Foreign Policy in the last decade and over incontrovertibly proves that import of foreign capital need not necessarily be attached with any 'strings'

Susceptibility One's Own Volition

But if the transferee is so inclined, he may import the abstract ideas of the transferor along with capital. Instances are not lacking to substantiate this point. Hence, the so-called 'neutral' countries turning into 'satellite' countries or any other gravitating toward an owing to import of capital, a question of the recipient's war otherwise to the particular politica of the capital exporting country. A all, in these matters, susceptibility is one's own volition.

Charge of 'Mortgage'

Another charge is also hurled against capital movement over political frontiers. It runs like this: That capital inflow implies capital outflow sometime later. If the volume of inflow is beyond the capacity of the country's outflow, to that extent, the present generation is 'mortgaging' the future generation. The receiver of foreign aid, either implicitly or explicitly, pledges to toe the political policies of the giver. So much so the receiver loses the right to shape his own policies in the light of rigteousness. For example, it is pointed out, that it is foreign engineering and imported material for which the Turks have 'mortgaged' themselves in the political arena.

Charge Not Valid

Although it is only ethically sound and honourable proposition that one has to pay back every penny received with interest, either simple or compound, therefore despite its entailing the country in some temporary suffering and sacrifice-the important point to consider is that the repayment is spread over so many instalments. Moreover, the rate at which the foreign capital creates new capital within the country may be more than a match to the rate at which the capital plus interest is moving out. In other words, it is the degree of efficiency and skill with which the recipient works on the imported capital that will decide the enormity or otherwise of the present commitments. Unless the imported capital is used deliberately to boost up party politics—but which rarely happens-the charge falls beyond the range of comprehension by commonsense. It is far-fetched. Therefore, the statement that import of foreign capital denotes crippling of the movement of the future generation does not seem to be valid.

EXTENSION THROUGH RURAL YOUTH

By : **Dr. J. C. SRIVASTAVA**

"YOUNG people in many parts of the world have long been wondering how they might help to improve living conditions in the so-called under-developed area which exist on every continent....How Young people can join hands in fighting the great battle of our time: the battle against hunger, disease and ignorance. What can be done and how can be done in order that the next 10 years may see an ever increasing number of young people and youth organizations initiating local, national and international programmes for spreading information about fundamental education, for promoting material assistance, for training young people for work in needy areas and for organizing community action to improve living condition. Through such expressions of belief in the solidarity of people, today's youth has a unique opportunity to help in creating peace" - Mr. Luther H. Evens, Director General UNESCO.

Introduction

Rural youth clubs have played a vital role in the agrarian advancement and rural prosperity in a number of countries. The Young Farmers' clubs of England, the Folk schools of Denmark, 4 H clubs, Future Farmers and Home Makers of America and Japan have been universally commended as a useful media of rural regeneration and advancement of extension education.

Youths are our precious assets who can play an important role in nation building activities. They are the future citizens and will come up and exhibit whatever values, a particular society finds worth to uphold. The standard and awakening of a country can well be judged from the youths of the nation, as the youths of today will form a nation tomorrow.

This valuable media has not escaped the attention of our planners. Many were familiar with these organizations. But having accepted the principles of rural youth clubs as essential to effective long range rural life improvement, the problems of developing a youth programme which could suit well for field operations remained to be solved. Several years of concentrated thought and work on the problem pointed out the obvious need for a comprehensive and systematic rural youth plan and programme based on cultural, recreational and economic activities.

Need

It is admitted that no lasting scheme of rural reconstruction can really be complete unless it is anchored deep in the massive rural youth structure of our country. Work with adults is only covering a part of our vast man power. But if we harness a creative and pervasive force like youths, we can substantially and quickly make a great advance in the reconstruction of our State. Whatever success we might achieve during the first five years with the adults, if we could get hold of the youths and organize them for our need, the success of working with the villagers in future would be more or less assured. Because by that time the youth of today would have become the man of tomorrow. "Child is father of man". This new father child would take hold of the reins of life with great understanding to make their life a success in whatever field of activity they choose to embark. It is the youth who can hold and sustain the interest of the community in villages. The youth organization will foster a sense of responsibility amongst its members for

attainment of certain ideals and will give the rural youth the opportunities for acquiring skill, understanding and vision. It will thus arouse in them an ambition for a healthier, fuller and richer life so that they may strive to make the best still better.

Why Rural Youths

India, an agricultural country will continue to live on Soil and competition from industry continues to emphasize the need for more efficient production, greater per acre yield and a larger farm labour output. Improvements in agriculture are, therefore, a vital need of the country. Present cultivator is not so much enthusiastic due to lack of requisite knowledge and training to take up improved and scientific methods of agriculture. He is more apt to ancient usages and customs. Furthermore, the apparently low level of nutrition among rural boys call for a programme that will encourage a full use of nutritious food products. Rural Youths through their work with livestock and crops learn to use scientific agricultural practices. As a result, the land becomes more productive, the crop fields become larger and the costs of production get lower. In turn more nutritious food products and improved diets become available. All these developments mean a higher standard of living to the sons of soil.

Many of the old methods and practices that were used when their grandfather was a boy are now out-of-date because they required too much time, lifting and hand labour. Destiny of future India, therefore, lies in the hands of our future farmers and it is they who will change the outmoded traditional method of subsistence farming and convert the land of perpetual hunger, starvation, famine, disease and floods into flourishing national economy based on the sound foundation of rural prosperity. It is with this object that we should train our rural youths in new methods of scientific and commercial farming through small projects based on the principle of 'learning through doing'. The task of training the youths in our conditions, where illiteracy predominates, evolving out an integrated development programme is not an easy one. Though a difficult and complex one, yet it has been decided to launch a coordinated programme through the media of rural youths.

Pilot Project

All this is certainly desirable and has been agreed upon. Many people know, what a great contribution rural youth movement has made in different ways in foreign countries towards considerable progress not only in the matter of material production, but also in the mode of living. Thus it is not a question whether we should have rural youth programme. It is merely a question of how shall we do it, on what lines to proceed and on what basis to establish the work in conformity with India's peculiar situation and needs. With a view to finding answers to these and other questions, the Planning Research and Action Institute, U.P. after some preliminary surveys, in June 1954 undertook Pilot Project programme in Extension through Rural Youths (younger age group).

The pilot project is intended to serve as experimental laboratory to discover the mistakes and difficulties in order to avoid them and to find out the best programmes, organizational pattern, techniques and methods. The pilot project is characteristically Indian in its concept and content and the ideas and schemes borrowed from other countries and other Indian States have been accepted after due trial to determine their application to and practicability for the rural areas. Another

equally significant feature of the pilot project is its coordinated approach and emphasis on the use of existing resources, institutions, organizations and the staff and without any duplication.

Objective

The purpose and objective of the programme is "to develop cultivators into progressive farmers and progressive farmers into better and nobler people by making available to farm youth the best knowledge and skill and to build the attitudes, values and habits needed to produce intelligent, well informed, useful citizens." The distinctive objectives as enumerated below are used by extension workers to assist youth club members in analysing their conditions, needs and interests. These points point the way to building programmes that will prepare the young people for better living, physically, mentally, and spiritually : (Condensed from various notes and literature on youth work).

(1) To help rural youths to develop desirable values, ideals and standards for (a) farming (b) family life (c) community life (d) citizenship and (e) leadership and a sense of responsibility for their attainments.

(2) To provide an opportunity to learn by doing farm and home enterprises and to demonstrate to others what they have learnt.

(3) To give them technical guidance through training in practical and profitable, individual and group projects.

(4) To train rural youths in co-operative action and in sharing responsibility in community efforts.

(5) To teach the value of research and develop a scientific attitude towards the problems of the farm, home and the community.

(6) To adjust to the changing economy and fix themselves to find out opportunities for greater income and learn to live in a dynamic world.

(7) To develop such qualities as self-reliance, leadership and devotion for the cause of community.

(8) To arouse in them the importance of cultural and recreational programmes, Camps, competitions, tours, judging contests, dignity of labour, music and folk activities and join with friends for work, fun and fellowship.

(9) To diffuse among rural youths in solving their problems themselves by practising practical thinking and good sense of discussion, holding organized meetings and thus to enable them to develop a consiousness of their responsibilities and duties of a good citizen.

(10) To develop habits of healthy living, and choose a way to earn a living. To build health for a strong India.

(11) To conserve nature's resources for security and happiness.

(12) To Serve as citizens in maintaining world peace.

With these objectives in view and knowing that "Coming together is a beginning; keeping together is a progress and working together is a success" rural youths are to form a club, undertake simple economic projects, and also take part in group activities designed to keep the boys together with their own elected office bearers.

Principles underlying youth organization

In organizing rural youth clubs care should be taken to develop the programme in a manner that the youths are led to feel that it is theirs and they are responsible for its success. It is important for organizers to study constantly what will make for the best development of

those evolved. The test of any organization's value is the extent to which each individual in that organization is given opportunity to develop freely to the limit of his possibilities or capacities. There should be varieties in programmes to attract youths. The organization should be based on a sound understanding of the adolescent as there is a strong craving for their best interests and objectives.

Philosophy of extension and youth extension programmes

The Extension Programme like that of any public organization should give not only what is needed but why it is needed. It should be an elaboration of the organization's public policy in such a way that anyone may find out just how the policy affects him. In this sense it is not a list of activities or calendar of work. *An Extension programme is therefore a statement of situation, objectives, problems and solutions. It is relatively permanent but requires constant revision.*

Youth Extension programme envisions long term programme of out of school education beginning with simple livestock rearing, crop raising and craft projects, geared to the ability of the 12 year old boy, but leading to more ambitious programmes involving not only money earning activities but aesthetics, leadership and community service as well. Here is the opportunity of developing people while they are young and have a tremendous potential in them. In this connection it would not be out of place to quote Dr. Egerston (of America) recepies —the "Test tube analogy".

"From one parent, willing to give his boy a chance, extract a piece of land. To that boy add one demonstrator who will supply expert knowledge. Use one teacher sympathetic with his work and capable of guiding and encouraging the boy, to stir into the boy from time to time bulletin and information on farming.

"Mix the boy and the piece of land regularly. At the end of the year state the result in terms of social chemistry."

Short History of 4 H clubs

While studying the subject we must have an idea of origin and progress of youth club programme in U. S. A. which appealed me most. The landmark date of 4 H clubs in U. S. A. is December 1896, which was started by the publication and distribution of nature study bulletins prepared by Dr. L. Hyde Bailey. He gave the first remarks "there is as much culture in the study of beet root as in the study of Greek roots'. It emphasises the relationship of literacy and science groups. If a boy is asked regarding some agricultural practice his reply will be far away from education knowledge. The reason is that he has not cared to learn them. It is necessary to recognise the situation and there must be relationship between education and the practical work. This was the revolutionary view of writing these small bulletins by Dr. Baily viz. seed testing etc. The students were taught the method of seed testing, they for curiocity's sake tried the method at their home, competed with each other, met and prepared a common interest. They co-operated and formed a product group.

This encouraged the study of agricultural subjects along with the traditions 3 R's. School boys as they went back to their homes started work on small projects relating to crop raising, pig keeping, home making including tailoring, sewing and canning and thus started clubs variously known as calf club, corn club, cotton club, cannig club etc. These were known as Project Clubs, but soon got converted into club projects.

The views were exchanged. This growing revolution attracted the attention of State officials. They thought to take benefit of these clubs, which was extended to the establishment of an agency like federal agency and was recognised as State organization. Differernt names were suggested and 3 H (Head, heart and hand) was established, based on the childhood song by Rudyard Kipling—

"Land of our birth, our faith, our pride ;

For whose dear sake our fathers' died;

Oh' mother land, we pledge to thee ;

Head, Heart, and Hand, through the years to be". Later on one H was added regarding Health that the Youths may be healthy making 3 H to (4 H) clubs.

To establish Extension Section in U.S.A. Smith Liver Act was passed in 1914 to aid in defusing among the people of the United States, useful and practical information relating to agricultural and home economics and to encourage the application of the same. Thus with this act the organization of 4 H was registered.

During the period they collected so much money that in 1949 they established a National 4 H Foundation endowed with funds for educational purposes. 'It is dedicated to the four-fold (4H) development of rural youth, this centre is established to contribute to knowledge, character, love, honour, and dignity among people'. The major activity of the foundation is the International Farm Youth Exchange (IFYE) an annual trading of young people across the oceans, and thus they made it of an International character from country organization. The 4 H emblem is a four leaf clover with the letter H on each leaf. The H's stand for Head, Heart, Hand and Health. Their interpretation is given as below :—

"my head to clearer thinking;

"my heart to greater loyalty,

"my hands to larger service, and

"my health to better living,

for my club, my community and my country".

Extent of development of 4 H work in U.S.A. (1955)

1. Total membership—2,300,000 boys and girls
2. No. of volunteer Youth leaders—2,75,000
3. No. of clubs—87,000.

Contribution of 4-H clubs to American life

Apart from above the 4 H clubs have genuinely affected the american's way of life which has clearly been accepted and given below :—

1. Trained young men and women for leadership.
2. Improved farmers and rural communities through agricultural extension and homemaking practices.
3. Increased attendance of rural people at colleges.
4. Revived community, county and state fairs.
5. Encouraged co-operative and community conciousness and efforts.
6. Implanted the concept of citizenship in young people.
7. " Keep the right boys and girls on farms ".

From the above, it is obvious how a modest idea in its origin has now generated into a more solid and universal programme of uplift and reconstruction in the field of extension. It does not aim at to follow in one and the same shoe as already manufactured, but it should act as motor force to scale the higher and

higher heights to the limit of a sound extension programme.

Reorientation of Youths

The reorientation depends on the change of society and social needs. When we were dependent we studied only teachniques of clerical job in the office or some sort of service.

"I beg to remain
Sir,
Your most obedient servant"

The question now arises as how to solve the problem that the young men may call on us not for asking job or service but may be prepared to work by their own hand. They may be conversant enough to know the country's need, and the country's economy. They should not hesitate to take up any practical job and for that they are to be reoriented in such a manner that they may earn and learn from the craft they are being taught. The education thus should be such that each individual youth of the village may be changed as true "Gram Sevak". They should be aware of their role in the future socio-economic development and may start looking into their own problems. Thus we have to disseminate new ideas, knowledge and practices among the rural young people who are usually cut off from the main current of advanced social life.

Here we divide the rural youths in three groups:—(i) school going, (ii) drop-outs and (iii) Non-school going, including illiterates. If complete development is required, all the sections must be coordinated and we will have to teach the school going, drop-outs and non-school going youths. We will have to educate them through the media of social education and agriculture should form the basic subject.

Extension Media

There was no link between the Research Laboratories of Agriculture and the Agriculturists and thus there was a wide gulf between the two. The research farms and laboratories carried out valuable researches and used to publish literatures but mostly these literatures were designed to help the technical field staff and the farmers practically remained at bay for whom these were actually established. Farmers could derive very little advantage from these institutions. On the contrary, the research laboratories should initiate the extension programme of educating neo-literates and rural youths through pamphlets, booklets and audio-visual aids specially prepared and written for them.

Farmers have their on individual, local and regional problems, but there was no ideal machinery to keep the flow of two way traffic i.e. communicating the field problems and experiences to research laboratories and the results of laboratories down to farmers' field. Thus there appeared a nesessity of organizing a long range set-up and it was considered that youth clubs can act as an extension media between the field and research stations. The subject is brightly elucidated through a Chinese proverb given below :

"If you are planning for a year
plant a seed ;
If you are planning for ten years,
plant a tree ;
If you are planning for hundred
years, plant men."

"Planting men" the youths (men of tomorrow) is a challenging task indeed and this gave an idea of developing a sound youth programme. We have to catch these youngs. So our aim is to limit our extension programme amongst the younger age group. The Extension principles are:—

"To help the future farmers to help themselves". It does not mean that we should do all their jobs and practices but only have to conduct such a social contact that they may take up the suggestions and advice without much delay and at the same time they may also gain something.

The Experiment

Keeping in view the contents of the above points the planning Research and Action Institute, Uttar Pradesh, Lucknow, resolved to start an experiment on Extension work through rural youths (yonger age group). Two small Laboratories were set up in the districts of Ballia and Etawah in early July, 1954. The begining was very modest and who could say that small germ of an idea would radiate so quickly and put on so extensive a form.

The following table shows the position of pilot laboratories :

District	No. of clubs/Members		
	July,1954	April,1956	July1957
1 Etawah	3/36	12/225	41/902
2 Ballia	4/69	20/390	25/433

Thus it is apparent from the above that the idea of establishing youth clubs gained steady popularity with the youths. During the period the projects selected by the members were generally vegetable growing. *The idea was not to have a sort of kitchen gardening or "Grow more vegetable" campaign, but to develop an attitude* for correct farming practices.

Nearly 40% of the total eligible youths joined the clubs in the villages concerned. Many more youths desired to enrol, but the number in each club had to be confined to a manageable limit.

In the beginning, the guardians, though not wholly hostile to the idea, were, however, sceptical about the success of the programmes, but within a short period they were amazed to find that their wards, who had previously been only idling away their time, were producing excellent crops and what was more important that they were really learning improved practices.

Training :

The influence of club work and the opinion of village adults have reached out to other villages in the Pilot Project areas and increasingly requests were made that the work be started there also. A beginning towards expansion has been made, but the Institute, however, proceeded cautiously, because it felt that any further radiation should be backed by adequately trained personnel and therefore many training camps of A. D. O. (S.E.),, V. L. Ws, Extension teachers and P. R. D. Zone workers were organized.

A careful planned syllabus of study and a schedule for field practice was prepared. The response of the trainees was encouraging and as the trainees went back, they started work in their own districts.

This programme was expanded in the year 1955 to Pilot areas in three more districts i.e. Saharanpur, Gorakhpur and Lucknow and by other departments to small areas in 39 other districts. These three pilot projects were chosen with a view for trial of distributed variety of location.

The table given below shows the uptodate position as regards the number of clubs with their membership progress in five pilot districts :

Table showing progress of clubs and their membership

District	No. of clubs/membership				
	July, '54	July, '55	July, '56	July, '57	July, '58
1. Etawah	3/36	12/225	12+5*/225+40**	40/705	—
2. Ballia	4/69	20/390	20/390	23/433	—
3. Lucknow	—	19/332	19/332*	29/545	—
4. Gorakhpur	—	4/53	4+2**/80**	13/153	—
5. Saharanpur	—	6/120	6+6**/120+93**	8/128	—
Total	7/105	61/1,120	72/1,280	113/1,967	134/2,368

* Opened in January, 1955
** Opened in February, 1956

The institute further recommended that intensive training in youth work be made part of the curriculum of all the extension training centres for development personnel.

Initiating youth programme

Informal individual approach to progressive villagers and the youths will enable the extension worker to get first-hand knowledge of the conditions of the area and the local people and some acquaintance with the nature of youth work.

When the youths are intelligently approached and contacted, they get attracted towards that programme and ultimately their parents are also attracted. This is another aspect of extension. Then parents feel proud of their sons achievements of their projects of cotton, onion, calf rearing and other vegetables. The father feels that when his son can grow such a good type of project, he shall himself grow a better one from another season. So this serves as an ideal. Next problem comes to community development. They should now think that if they take a combined or group programme, it would be most successful. Then the extension worker should prepare them for light "Shramdan", for 'Kharanja' making, village cleanliness, soakage pit construction, etc. etc.

So extension programme must be both for individual and for group. The third step would be to select the interested youths and possible volunteer leaders. We should help them to organize a group in the village. But the programme will remain incomplete unless the leadership is developed. They should be taught to organize meetings, to put up their thoughts, discuss their difficulties and how to overcome them.

Here a point of caution must be remembered that this may not be conducted beyond the control of extension worker and further it may not stagnate by the over-indulgence of the extension worker. The work of extension worker will be of a catalytic agent. The programme should be planned in such a way that it may not give a window show and may be spoiled by the absence of the worker. This can successfully be avoided by preparing the youth leader. Such people are to be selected who are much linked up with the boys, who take interest in the village affairs. Earnest youths are to be selected and amongst these small and solid number, the leader is to be designated.

If the leader has been spotted, the extension worker should try to extract himself slowly fron the programme and in this way give them chance to take up the programme themselves.

We should make the younger generation fully equipped so that when they grow old they take up the village leadership. Thus it was thought necessary to take up a trial of this programme, whether it will be successful or not. So we must first test it in a field test-tube method.

Membership

The following qualifications are laid down for membership:-

1. Club membership is voluntary.

2. Any school or non-school going, literate or illiterate could become a member.

3. There is no bar of creed or caste.

4. Club membership consists of rural youths of 12 to 20 years of age.

5. Each member must choose his project as explained earlier either in agriculture, animal husbandry, industry or craft. The member must be able to demonstrate the improved method or technique as a result of completing the project.

6. Should take a pledge to "learning through doing" and to earn while learning.

7. Club meetings shall be conducted using proper parliamentary procedure.

8. Club members shall not participate in party politics or political or secular activities, though they are encouraged to study about politics and Government.

9. The membership of each club will be limited to 20. There can be more than one club in the same village.

10. Each member should keep a record of his project showing in detail the activities conducted, total cost incurred, the improvement secured and the results produced.

11. All the members shall attend the club meetings without fail.

12. Every member will seek approval of his parents for membership and shall abide by the following pledge and agree to live up to the standards set by the club.

Office Bearers.

After the requisite number of members are enlisted in the club, the members may be asked to elect the office bearers viz. the President, Vice President, Secretary, Treasurer and Captain. The elected office bearers will serve for a year, after which there will be a re-election which will be on a simple parliamentary procedure. After sometime a project leader may also be elected.

Meetings

The President will conduct the meeting while Vice-President will act as President in the absence of President. The Secretary will record the minutes and treasurer will keep the accounts. The captain will lead in games and recreational activities.

The office bearers (President , Vice President and Secretary) will be seated facing the members who will sit in a straight line of 3 or 4.

The meetings of the club should be held twice in a month with a lapse of 15 days, on a fixed date. These meetings should be conducted on democratic pattern and the proceedings should be conducted in a business like manner and should be marked with dignity. Each meeting should have an agenda, which will consist of the following :

1. Prayer
2. Pledge
3. Attendance
4. Proceeding of the last meeting and its confirmation. Suggested improvements wherever necessary.
5. Discussion on the achievements.
6. Plan of work for the next month.
7. Talk on the projects by discussion technique.
8. Study of youth Paper.
9. Cultural Programme.
10. Games.
11. Club Song, Slogans.
12. Thanks giving by the President.

The Secretary will be resposible for preparing the agenda and minutes. The guests and invitees may be given appropriate seat on the right or back of the members row.

Thus it is expected that each club member will be faithful in helping to carry on his club work as a part of the general extension programme of his community in partnership with his parents and neighbours, and in living up to its high ideals to the end that he will be among the distinguished number who are working for a better home, a better nation and a better world.

Projects

The basic technique of youth programme is to learn through doing and to

earn while learning. The members of the club undertake various individual or group projects according to their aptitude and opportunity with the constant technical guidance and help of extension worker. They conduct farm, home and the community enterprises with an intelligent understanding of various programmes, possibilities, problems and possible means to overcoming them. Thus they will develop profitable habits and use leisure better through cultural, social and recreational activities, including games and sports, camps, competitions, tours and fairs.

The individual economic projects raised by the members related to growing range of vegetables. In crop raising, use of dibbler for wheat, Japanese method of 'paddy cultivation', true method of cane cultivation etc. found much favour. Raising cotton and turmeric on improved lines were also taken. Besides these non-agricultural projects like sericulture, durrie making, calf reaing, poultry, and soap making were also taken up.

Each member maintains an individual record-book and a study of group work results (for the year 1957) relating to five pilot districts is given below :

District	No. of clubs members	Total cultivated area in sq. ft.	Total financial gain in Rs. as. p.
1. Lucknow	29/400	97,488	1,701—7–9
2. Gorakhpur	13/127	13,441	328—5–9
3. Etawah	39/473	3,12,783	6,455–10–6
4. Ballia	23/375	57,154	1,194—2–0
5. Saharanpur	7/92	41,355	612–10–6
Total	111/1,467	5,22,221	10,292—4–6

Records

Each literate member keeps a simple record of his project; the clubs record their group achievements. By keeping these records each member gets practical training in book-keeping and can determine whether or not he is making a profit on his project. The non-literate members are assisted by literate members in keeping their records. This stimulates interest in education among the non-literate members. These records also furnish reliable data on which to build the future programme and a basis for recognition of worthy clubs' membership.

Social Service and Cultural work

When we serve others, we help others as well as ourselves. Young people should be given a chance to grow personally by improving their home community. This is one of the best methods known to train and develop good citizens and leaders.

"Brighten the corner where you are"

The members participate in social service like village sanitation, participation in and organizing Shramdan for village roads, acting as volunteers for social service in fairs and in adopting epidemic control measures. Besides these, celebrating festivals and rejoicing on National days are the important features of club activities.

Literature for Youths

Soon after the clubs were started it was discovered that suitable literature was almost entirely wanting and that in order to support the work with technical information written to the reading level

of the neo-literates and young school going members, it would have to be prepared. To meet this need, small one-anna "How to do" booklets as "Yuvak Gyanmala" series have been brought out so far.

A collection of songs, poems rural games and other recreational activities appropriate for yuvak has been published under the name of "Youth Geet Mala" and "Manoranjan and Khel"

A forthightly news bulletin 'Nav Yuvak' is also being published at a nominal subscription rate of Rs. 1.50 a year.

Programme Planning

"Plan your work, and work your Plan"

A yearly or six monthly programme for each club is essential if it is to attain its highest degree of success with a minimum amount of effort. This is simply a statement of things the club aims to do and methods to be used in securing results desired. The club members and leaders must be familiar with the programme.

At the beginning of the year members should set up goal towards which to strive. A plan found very satisfactory should be written on a large sheet of paper pasted on cardboard. At occasional meetings the secretary should check up the goals that have been accomplished since the last month. The proforma is suggested below :

S. No.	Month	Individual Project.	Public Health	Animal Husbandry	Social Service.
1.	Jan.				
2.	Feb.				
3.	March				

Recreation

"Amusement and recreation are the very things that make our working hours profitable. He who carves so steadily, that he has no time to sharpen his knife, works with dull tools and cannot make much headway". Recreation is an essential part of youth activities as it expands the learning process through relaxation and enjoyment. It gives them team training for the general physical and all round body development. Recreation includes games, sports, folk activities, hobbies, one act play, hike, picnic etc.

"If you want to know what a boy is,
watch his play ;
If you want to know what he will
become, direct his play"

It, therefore, gives an opportunity to develop talents and leadership. In games and sports the following points should be borne in mind "keep your head when you win, and your heart when you lose"

Physical and recreational activities form an integral part of the club programme. Daily practice in "Surya Namaskar", volley boll, 'kabaddi,' ring and stick, reciting, acting, races, jump and throws, march past, singing, these are some of the important activities under this head. With a view to inculcate keep-fit consciousness among the rural youths, a standard of Physical efficiency has been prepared according to age group. Soon a particular youth qualifies in the prescribed test he is awarded a certificate.

Recreational activities help to relieve monotony of life in rural areas. However in the work of rural youth clubs, it should not be emphasized at the expense of project teaching because the distinguishing feature of club work is the project work which boys do and the practical results which they obtain.

Observations

The acceptance of the rural youth programme along the lines developed by the Institute has been gratifying. The ready made pattern was improved, as far as possible, from the studies of village situations, trials, tests of practices and conclusions based only on sound field experience. Even now it is admitted that all conclusions and recommendations are not the last word or final in every part. I think, the time has now come to take a good look at what has been done. We can point out some of our observations. Much has been done, more remains to be done. We have succeeded in one way, but have also failed in other ways. There are a number of problems we have to face honestly. Problems that have come into focus through these operations are as under :

1. Discovering and attracting voluntary leaders, who will take responsibility for the clubs.

2. Establishing satisfactorily on a fairly large scale type of youth projects.

3. Evolving suitable projects for the landless youths and saturation of village youths in a club.

4. The programme has to be evolved for youth workers and leaders keeping pace with expansion.

5. The question as to how this programme should be extended for girls, should be faced.

6. The question of expansion and acceleration is to be considered. How fast can we expand ? Is there danger of over-expansion–danger of lagging behind or stagnation.

Progress

Regarding the last point (VI) it should be borne in mind that the expansion of the Youth programme should be made within manageable limit. The membership may be increased slowly watching the interest and participation of older members and the membership of a club should not increase more than 20.

The aim of such an organization is not to develop maximum membership of youths on the roll and to have just haphazard get-together of youths, nor to multiply the number of clubs like anything. There should not be any window dressing. But it should be a solid programme organized on the basis of individual projects.

The clubs should only be started by a trained personnel and the membership should confine to those youths who have completely understood the programme and have taken pledge, to establish their interest by tangible work, individual and group projects.

Thus we should first proceed very carefully, slowly, step by step and let the membership and other activities take its own time of expansion. But contrary to it if we expand the same with speed, though in the beginning there will be a sharp rise but it will be hampered afterwards and there will be stagnation and danger of failure.

Strength of youth clubs

The strength of youth clubs is based on the following important points :—

(1) *Faith in the programme*—Nobody should really take up youth programme unless he is keen on it and feels called to it. If he will take to his work just to make a living or because he has to do it,

he will lack the essential spirit and zeal required by the extension principles.

Interest, enthusiasm and love are essential to all kinds of work, without these no real success in any direction is possible. But they are specially important for the youth extension work in which there is so much drudgery and where so much patience is called for.

(2) *Aim*—The extension worker must have a clear understanding of the aim of his work. The aim of youth work has already been defined and while he may look back into the past for inspiration, his eye must be on the future, he has to help young people.

(3) *Wholesome participation*—Democratic approach in organizing the youth clubs is chiefly responsible for fairly good response even in the initial stage. Participants in these clubs are drawn from all sections (religion, caste and occupation) of the community. Such a participation is likely to strengthen the bonds of social relationship and is likely to prove an effective force in promoting social cohesion.

(4) *Balanced Programme*-Programmes or activities organised under the auspices of youth clubs should be well balanced. These are likely to develop balanced personality i. e. mental and physical aspect of personality. These programmes will give the members an insight of new techniques.

Organised tours within the block for club members will help the members in forming a comprehensive outlook most essential for progress. Further such tours will strengthen bonds of social relationship within the community.

Conclusions

Three good years have gone by since the experiment was started. The organization originally restricted to two small experimental laboratories which has spread over by now to the whole of Uttar Pradesh. The total number of club stands at 1,152 and the membership has gone beyond 20,000. The Institute wished it could achieve something more but the cautious and too cautious steps retarded the speed of expansion. Another difficulty was the lack of voluntary youth leaders. Ultimately the entire programme has to be shouldered by the voluntary village leaders and their dearth and acute dearth at the moment may caution us to wait for sometime till we can completely rely on the voluntary agency for the execution of the programme. However, facing all these odds and working in the midst of trials and difficulties the following perceptible results have been noticed.

(1) *Community mindedness*— (a) The old parental enmity of rural youths is steadly disappearing and nearly all the youths of the villages where clubs have sprung up are keeping and working together.

(b) Youths are learning simple lessons of democracy in electing their office bearers, moving a resolution, seconding it, voting for it, etc.

(c) Social barriers are being torn down. The rich and the poor and the high and the low castes all sit together and participate in the club activities.

(2) *Extension Work*—As explained before, the youths are learning improved practices relating to agriculture, animal husbandry, crafts and public health also, directly or indirectly, disseminating these among their parents, guardians and neighbours.

(3) *Physical, cultural and recreational activities*—Youths are celebrating festivals and national days in a befitting manner. They have become health minded and have also got the stage confidence for speaking, reciting and

acting. It can be predicted that within next ten years from now the world will know that something really great has been done in the villages by orgainzed youths and the new generation of bright intelligent toiling youth will emerge out from the youth clubs founded today.

Millions of boys as club members during the coming future could revolutionize the life in our villages and can reshape their villages and the rural economy because they are taught and trained for better and prosperous life during their childhood. The contribution of youth work towards improvement of the tone of village life, indicates the necessity of adoption of Youth Programme as an indispensable vehicle for extension work. This organization does not involve any financial implications for the Government and the only way the Government help is sought for, is in the form of social recognition and prestige of the organisation.

It may take some years for the Youth Movement to win its way slowly into the village way of life but when it develops and grows, it will itself help to shape that way of life and respect, we believe, it deserves.

Edwin Markham in "Man-Making" says-

" We are all blind until we see,
That in the human plan;
Nothing is worth the making if,
It does not make them ;
why build these cities glorious,
If man unbuilded goes;
In vain we build the work, unless
The builder also grows "

With all these we hope for a general rise in the level of living and also expect that the role of such organized youths would be of no mean order in the national reconstruction.

SOME UNDISCUSSED ASPECTS OF THE ANDHRA LAND REFORM BILL

By : **GOPAL RAO EKBOTE**

I have in my previous article (Hindustan Standard dated 20th August, 1958) discussed the salient features of the Andhra Land Reform Bill and pointed out the various measures which should be adopted to improve the same. There are however few important aspects of the Bill which I had not touched in my previous article. As these aspects appear to have escaped even the four-day discussion of both the Houses of Legislature, I deem it profitable to discuss them to help formulate opinions in regard to them. As the Bill is now referred to the Select Committee, there is ample time to ponder over these aspects.

In Clause 2 (a) 'holding' has been defined to mean all lands held by a person as owner, full or limited, usufructuary mortgagee, or as tenant or in any or all of such capacities. In pursuance of clause 4, the prescribed authority is required to determine the extent of land which shall ordinarily be sufficient to yield net income of Rs. 5,400 per annum for each local area and for each class of land in each kind of soil. The result of this determination is regarded as the "standard permissible holding" for that class of land and kind of soil in that local area.

After the above said notification is published determining the standard permissible holding, every person holding land in excess of the permissible holding is expected under clause 5 to furnish a declaration of his hoiding to the Revenue Divisional Officer. The R. D. O. also has been clothed with powers to issue notice requiring any person who, he has reason to believe, holds land to furnish to him a declaration of his holdings and it shall be the duty of such person to furnish such declaration.

Clause 6 enjoins upon the R. D. O. to determine in cases where holding exceeds the permissible holding, the total net income of the holding and the amount, if any, by which such income exceeds the ceiling income, according to the formula laid down in the said clause.

After the determination of net income of the holding, if it is found that the total net income of the holding is equal to or less than the ceiling income, the person concerned shall be entitled to retain his entire holding, but if it is more than the ceiling income, such person shall be liable to surrender such extent of land as will after surrender bring the total net income of the land retained by him to the limit of the ceiling income.

Clause 8 states that if the land surrendered under clause 7 is by an owner (other than a limited owner), the Government will take over such land on payment of compensation.

In case the land surrendered is by a limited owner, it shall vest in the presumptive reversioner and in such a case if the total land held by the reversioner exceeds the permissible holding, the reversioner is expected to furnish a declaration of his holding to the R. D. O. The reversioner is also liable to pay the limited owner compensation for the land vested in him, in the form of an annual sum until such time as the limited owner would have continued in possession if the surrender had not been enforced upon him.

Clause 10 directs that where the land surrendered is by an usufructuary mortgagee, the possession of the land shall revert to the mortgager in every case where and to the extent to which the mortgager himself is not liable to surrender under clause 7. The excess land can be taken over by the Government on payment of compensation.

If the land surrendered is by a tenant., then in accordance with clause 11 the land gets reverted to the owner in every case where and to the extent to which the owner himself is not liable to surrender, such land under cl. 7. The owner to whom possession of the land has thus reverted is liable to pay the tenant compensation equal to one year's net income of such lands. Excess land can be taken over by the Government on payment of compensation. In all cases where excess land is taken-over by Government under cls. 8, 10 and 11, the Government is required to pay compensation to the tenant or the owner, as the case may be. The R.D.O. is the competent authority to determine not only the quantum of compensation payable, but he has also to decide to whom it is payable.

On a plain reading of these provisions, it becomes abundantly clear that the Government intends to fix the ceiling on the holding neither on the basis of ownership nor on the basis of personal cultivation, but the ceiling is being fixed on the basis of the land held by such persons in other words, on the basis of their possession alone. This is borne out by the fact that not only the owner, full or limited but usufructuary mortgagees and

tenants are also required to furnish the declaration of their holdings in case they are in excess of the permissible holding. The significant aspect of these provisions is that if the usufructuary mortgagee or the tenant of an owner has in his holding land in excess of the permissible holding such land is reverted to the owner and possession is given to him and it is only after this process is completed that his holding is computed in order to find out whether he has any land in excess of the permissible holding.

The inevitable result of these provisions is that an owner can so manage the distribution of his lands among his usufructuary mortgagees and tenants as would not exceed the permissible holding in possession of each such mortgagee and tenant. He will thus not only contrive to own land many times more than the permissible holding but will successfully deprive the Government of acquiring any surplus land. The most unfortunate part of the Bill is that after the process of determining the net income of holding and the surrender is over, there is no provision by which a land, which had continued to remain under the ownership of the landlord, can be acquired by the Government.

The only two provisions which can possibly be considered in this respect, are clause 20 and clause 21. Clause 20 imposes a penalty on those who are under obligation to furnish a declaration of their holdings and who refuse or fail to furnish or furnish false or incomplete declarations. As the owner is under an obligation to furnish a declaration of his holding to the extent of the land holding i. e., to the extent of the land in his possesssion and as a separate obligation is placed upon the mortgagee and the tenant and as the ceiling is fixed on the basis of holding for these categories of persons, it cannot be said that the owner has furnished a false or incomplete declaration, in case he declares the extent of land which he is possessing. The second provision relates to the forfeiture of lands purchased or voluntarily acquired in contravention of Section 15.

Section 15 refers to the ceiling on future acquisitions. Cl. 21 therefore provides for the forfeiture of lands acquired or purchased in excess of the lands permitted under Section 15. The owner cannot be said to be violating See. 15 when he redeems his mortgage and gets back the possession of the land from the usufructuary mortgagee, or determining the tenancy under the Andhra Tenancy Act of 1956 and comes into possession of such land. This is neither voluntary acquisition nor purchase of the land. Therefore the question of forfeiture of such land does not rise. There is no other provision to effectively deal with such a situation.

The following illustration will make this point clear. A, a landlord, owns 600 acres of land. He is in possession of 50 acres of land and has mortgaged another 100 acres of land with two mortgagees B and C, 50 acres with each. And the rest of his 450 acres of the land is held by nine tenants of 5o acres each ; supposing that the standard permissible holding fixed for this area is 60 acres. Then neither the owner nor the mortgagees nor the tenants are under an obligation to furnish the declaration under Section 5, as they do not hold land in excess of permissible holding. The ceilings are determined in reference to owner, mortgagee and tenants separately. As there is no surplus land in pessesion of any one of these persons, there does not arise any question of surrender or payment of compensation. After this process is over, if A, the owner of 600 acres, redeems the mortagagees and also

puts an end to the tenancy according to the Andhra Tenancy Act, he can jolly–will remain a landlord with full ownership of 600 acres enjoying the possession thereof without violating the provisions of the Bill under consideration and without making himself liable for surrender or forfeiture of any land.

I do not think it is the Government's intention to give such a large latitude to the landlords and create a situation which will frustrate the very purpose of imposing the ceiling on land holding. But unfortunately this is what is the outcome of the Bill. The Government may by another legislation catch the landlords unawares and make the tenants owners by providing appropriate compensation. But in either case the confidence of the people will be shaken. The best course, therefore, would have been to apply the ceiling to owned land (including land under permanent and heritable rights,) hold under personal cultivation, tenants being enabled to acquire rights of ownership on leased land on lines indicated by the Planning Commission.

It is in this reference that the necessity of a legislation which embraces all aspects of land reform is felt. The scope of the question of land reform is vast and its complexity baffling and unless it is tackled with courage and foresight by formulation and implementation of a comprehensive over–all plan designed to bring about a reconstruction of all its aspects, it will not be possible to achieve material results. Unless, therefore, the problem of tenancy is not tackled in a forthright manner, along with the imposition of ceiling on land, the present Bill can hardly be said to satisfy agricultural class as a whole.

In this connection one obvious point appears to have missed the attention of the Government. The Bill provides for a fixation of ceiling for limited owners and also for vesting of surplus land in favour of presumptive reversioners. While making this as a part of the scheme the Government appears to have overlooked that a revolutionary change has occured by the passing of the Hindu Succession Act of 1956. The outstanding feature of that aet is that man and woman have been treated on the basis of equality in the matter of succession. Section 14 of the Act makes it clear that any preperty possessed by a female Hindu, whether acquired before or after the commencement of the Act shall be held by her as full owner thereof and *not as a limited owner.* Not only the woman under the Act takes the property absolutely as much as the man takes, but she becomes a fresh stock of succession. Sections 15 and 16 of the Act lay down the manner of succession to the property held by such absolute female owner. I do not therefore think that the Government wants to revive the previous abject conditions of women in regard to inheritance. These provisions therefore are not only contrary to the Hindu Succession Act 1956, but surely they are not in the interest of women, who have now been placed on equal position with men. These provisions therefore should be deleted.

Another anomaly from which the bill suffers is the provision of prohibition of alienation of holding. Clause 14 instead of prohibiting the alienation immediately or invalidating all malafide transfer during the past few years, provides that from the notified date no person owning land in excess of the permissible holding shall aliens his land or effect a partition until he had furnished a declaration under Section 5 and the extent of the land to be surrendered has been determined by the R.D.O. Alienations or partitions made in contravention of this Section are declared as null and void. Clause 15 however permits persons to purchase or otherwise

voluntarily acquire any land, such that the total assessment payable in respect of all lands held by him after such purchase or acquisition would not exceed Rs. 250. Similarly clause 3 puts a limit of such purchase or acquisition to the extent of 2/3 of the permissible holding.

It will thus be seen that a way is available for the persons to purchase land from the persons holding land below the permissible holding and also from those who have land in excess of the permissible holding after the requirements of Sections 5 and 7 are fulfilled if such land is owned by the persons and happens to be in possession of tenant or mortgagee. These loop-holes must be properly plugged keeping in view the purpose of the land reform.

The Bill does not provide for any appeal against the order of determination of standard permissible holding by the prescribed authority under cl. 4. The infallibility of such prescribed authority cannot be assured. Clause 22 provides appeal against any order passsed by the R. D. O. under this Act to the District Collector whose decision is taken to be final. Assuming that the words "any order" mean final order passed by the R.D.O., the provision of appeal to the District Collector requires rethinking.

The function of interpretation and implementation of the Act should not be entrusted to the Revenue Officers, who naturally look more to the Board of Revenue for inspiration and guidance, than to the law. This mars the exercise of their independence of judgement. It would have been definitely better if the appeal would have been provided to the District Court. The inefficiency, want of legal knowledge and an anti-judicial poise in these administrative authorities can hardly be disputed. The relationship between the executive officers and the public individuals cannot be easily free from bias. The formers' rigid attachment to truly administrative needs may warp his judgment as to the rights of the individual under the law. The dangers of rigidity, authoritativeness on the part of these administrators have necessarily to be safeguarded. In these days where social, political and economic powers are increasingly concentrated in the hands of the administrators, it is necessary to ward off the danger of administrative absolutism by putting forward the conception of the Rule of Law. It cannot be denied that the common man today has abundant confidence in the Judiciary.

In the interest of the people therefore it is necessary to provide an appeal to the District Court instead of the Collector, who is already a very busy person. Although there is at the moment a provision in the Constitution in the form of Arts. 226 and 227, it is necessary to provide a revision in the Bill on the questions of law to the High Court. The Hyderabad Tenancy Act has provided such a revision to the High Court. The principles of checks and balances is always a healthy one. An administrative official who is accountable to a District Judge in matters of both law and fact and is further subjected to judicial scrutiny on questions of law at the hands of the highest judicial Court of the State will always act more prudently. A citizen who can appeal to a body independent of controversy would thus be provided with a protection against possible passion, obstinacy, irrational conduct and incompetency of an official. The latest trend in the matters of administrative Tribunals are also moving towards the direction and I hope that our State will fall in line with it.

Clauses 29 and 30 even if read together do not clarify as to what provisions of the Hyderabad Tenancy Act are repealed. This creates an uncertainty in regard to

the application of provisions particularly applicable to Telangana area of the Hyderabad Tenancy Act. This is bound to lead to a considerable litigation and to complicated questions of interpretation. The effect of cl. 29 is to annul all the previous proceedings, agreements, decrees or orders under the Hyderabad Act and the Bill therefore places the Telangana area in almost the same position as it was in 1950 before the Hyderabad Act came into force and it looks as if for the first time steps will have to be taken under the new Bill. It will undo a lot of beneficial work done by the Land Commission and various other authorities. It will also unearth the problems which were disposed of by the Courts. This situation can hardly be called as satisfactory.

What will happen to the pending cases in different Courts under the Hyderabad Act is a matter left to the uncertain future. The increase in the quantum of ceiling and the charge in the mode of determining the same will stir the otherwise placid water in Telangana and create many problems which will be difficult to meet. The strange part of cl. 30 is that the Government is assuming powers to modify even such provisions of the Hyderabad Tenancy Act which fall outside the ambit of the present Bill, a power which can validly be questioned. The Government has already anticipated the difficulties and has provided in cl. 28 for the delegation of the powers to deal with them promptly. But in so far as the delegation of power amending the other provisions of the Hyderabad Act is concerned, it contains the germ of arbitrary administration and every possible care must be taken to avoid it. Any attempt to encourage the disposition to delegate such legislative functions is only to seek to narrow the liberties of the people and help accomplish effectively the aims of contralisation.

It is the function of the legislature to amend or modify the law. It cannot therefore abdicate its legislative functions. It is the duty of the legislature to see that such delegated agency acts as a subordinate authority and does not become a paralled legislature. This clause therefore should be redrafted. It would not be wise to treat the executive as having co-extensive power of legislation and clothe it with its own capacity of law-making. This provision is likely to create many complications and should therefore be altogether deleted.

It will thus be seen that this agrarian Reforom Bill is full of many pit-falls and can hardly bring any real reform or bring us nearer to an equalitarian society. On the other hand it is likely to create more complications and deform our existing social structure in the wrong way. The right thing in the present context would be to extend the Hyderabad Tenancy Act as it is to the Andhra area. The Hyderabad Act is all-embracing and is certainly capable of improving the rural economy• and is ideally nearer to the various suggestions given by the Planning Commission in ths Second Five Year Plan.

ESSENTIALS OF 'RABI' CAMPAIGN

By : **D. V. S. CHAUHAN & O. P. DAHAMA**

INDIA'S population is growing faster than the corresponding production of food. For meeting the growing need of this increasing population food grains worth about Rs. 100/- crores are being imported every year. For saving this money for country's development and to feed the growing population the food production is to be doubled of the present production.

For achieving the above object, recently some States of the Union, on the directive of the Central Government, have launched a campaign called as "RABI CAMPAIGN". The main objective of this intensive drive is to increase the yieid of wheat, barley, gram and Rabi Jowar in the present Rabi season.

To make this campaign a success and to have the full realization of the above objective earnest attention is to be paid to the following essential items :

1. *Field Preparation* :—(a) For wheat the tilth of the field should be fine. It can be attained by giving 8–12 ploughings to the field–6–8 ploughings by *Desi* plough and the rest with an improved mould board plough. (b) Barley being a harder crop requires less preparatory cultivation than wheat. (c) Gram requires a deep tilth, but much pulverization of field as in case of wheat is not required. 5–6 ploughings in a fallow field and 3–4 ploughings by *Desi* plough will give the desired tilth in the field. (d) For Jowar (Rabi) 6–8 ploughings are enough. This crop being a surface feeder needs some depression if made in the soil, during the monsoon season for its better establishment.

If the moisture is insufficient, a slight *Palewa* (pre-sowing irrigation) may be given before preparation. Each ploughing in the Rabi season should be followed by *Patela* (planking) to conserve the moisture,

2. *Seed*:–It should be undamaged, free from insect and disease attack and plumpy. For checking the spread of disease in the crop it can be treated in any of the following ways :

A (a) 3–4 oz. of Cerasan or Lunasan for 1 md. of seed should be used or

(b) 4 oz. of Agrosan GN and 4 lbs. of Gammexene for 1 md of seed should be properly mixed before sowing.

(c) For Bunt disease the use of 4 oz. of Copper Carbonate per md. of seed will be very beneficial.

(d) In Jowar, treatment of the seeds with 4 oz. of Sulpher or Agrosan GN is very effective.

While treating the seed with any of the above chemicals care should be taken that the seed should not be touched by hand and if the seed treated with these chemicals is not used for sowing it should not be consumed by human beings or animals, because these are strong poisons.

(e) Floating the seeds in water and than drying them in the sun also checks the Loose Smut disease.

B. *Sowing Time*:—Sowing of seeds at proper time is very essential to save the crop against the attack of diseases. In plains, for wheat and barley the suitable time for sowing is from mid of October to mid of November. Rabi Jowar and Gram are sown earlier than wheat and barley. They may be sown from the second week of September to the beginning of October.

C. *Seed Rate* :—(a) For wheat and Barley 25 seers– 35 srs. per acre (b) For gram 12–16 seers per acre and (c) for Rabi Jowar 5–8 seers per acre.

D. *Seed Spacing* :—In wheat and barley row to row distance should be 9" to 12" (inches.). In gram row to row 1' to 1½' (Ft) In Rabi Jowar row to row 1½ ft and plant to plant 1–1½ ft.

E. *Seed Depth* :—Under rainfed conditions the depth at which the seed is to be placed should be 3" to 4" while under irrigated conditions it may be 1" to 2".

3. Recommended Improved Varieties For Different States of India:—

Wheat:-For Andhra NP 200; for Bihar NP 797, NP 798 and NP 799.; for Bombay NP 710, for Delhi and Rajasthan NP 718; for Madhya Pradesh NP 710, Hybrid No. 11, 12, 38, 65, 277 and 278; for U. P. NP 710, 770 and Ridley and for Punjab NP 770, NP 809, Ridley, C 591, 518, C 217, C 228, C 253, C 281, C 285.

Barley:-For punjab, Himachal Pradesh and Delhi: T4, T5, T152, T 155 and NP 13; For Rajasthan and M. P. T4, T5 and NP 13; For Bihar Orissa and West Bengal NP 21. For U. P. N. P. 21, T 20, K 74, K 84, K 85, K 86, K 94 K 95, K 251, K 259 and K 285.

Gram:-For Delhi and Rajasthan NP 58, NP 25. For Punjab G 24. For Bombay—Chaffa (strain 816), Early Gulabi and Dohad yellow. For U. P. T 1, T 87, NP 25, NP 338, For M. P. G2, U2, 21, Indore 22, Indore 707, NP 25, T 87, T 1, Adhartal E. B. 352, E. B. 28.

Rabi Jowar:-For Marathawada Region of Bombay PJ 4, Maldandi 47–3; for Nagpur, Bhandara and Chanda districts No. 7 No. 10, for Vidarbh No. 5; for Bharoach Panch Mahal districts BD. 8, for Deccan region Maldandi 35–1. For Bhir District PJ 3. and for Ahmednagar district-Nagar Dagadi–15.

4. Methods Of Sowing:

Sowing of seed by improved drill is better than sowing behind the plough or by indigenous single row seed drill. Sowing by improved seed drill saves labour and time. Any of the following may be used for it:

Duphan, Karnatic Seed drill of Madras, Ambala seed-drill, Argadha type seed drill, Sabash seed drill-cum-cultivator.

5. Manures And Fertilizers :

The application of fertilizers and manures in these crops will produce plumper grains, will increase yield and we can reduce the quantity of seed in this case. For different crops fertilizers may be used in the following ways :-

For wheat and Barley :—Green manuring is always better for these crops otherwise the application of:

(a) 6–8 cartloads of F. Y. M. (Farm Yard Manure), mixed well in soil before field preparation or

(b) Castor cake or ground-nut cake at 4 mds. per acre applied 10 days before sowing, if there is sufficient moisture in the field or

(c) the application of 20 seers of ammonium sulphate and 2 mds. of super phosphate 5–10 days before sowing, will give better results.

While applying the fertilizers care should be taken that the fertilizer should not come in direct contact with the seed though it should be nearer to the seed.

In Jowar:—No manure or fertilizer is needed to this crop if the previous Kharif crop was vegetable or other well manured crop. However a good top dressing in early stages of crop grown is advisable. If the field is not manured previously, then 5–10 cart loads of compost or Farm Yard Manure for unirrigated fields and 15–20 cartloads for irrigated lands will give better results .

6. Irrigation :—

In wheat the first irrigation should be done after about one month of sowing

and at this time one maund of Ammonium Sulphate should be applied as top dressing by placing the fertilizer 3" to 4" away from the crop line and 1" to 2" deep. The second irrigation in wheat should always be given after about 2 months i. e. one month after the first irrigation when grains are about to form. No further irrigation is needed if there are good rains in January and February. Field should be irrigated only when it is required and irrigation at later stage of the crop should always be avoided.

Barley requires less irrigation than wheat though irrigation does increase the yield of the crop than unirrigated crop.

In gram one irrigation during November or December should be given if it is needed.

In case of Rabi Jowar there is no need of irrigation if there are good rains, otherwise irrigation should be given after about 1 to 1½ months, of sowing.

7. **Weeding**:

It wheat and barley weeding should be done if infestation of weed is very high. It should be done when the crop is about 8" high. According to Dr. R. D. Verma and B. L. Bhardwaj of I. A. R. I. New Delhi chemical wheat control in wheat increases the yield.

In an irrigated crop, a light harrowing with a light peg-tooth-harrow, preserves the moisture for a long time and encourages tillering.

In Rabi Jowar 2 to 3 inter-cultural operations done by blade-hoe or by some improved tine-tooth-hoe, will suffice to decrease the weed population.

8. **Roguing**:

Removal of plants of some other cultivated crop mixed with the crop should be done otherwise it would spoil the seed for further crop and would increase the disease.

9. **Pests and Diseases**:—

Timely detection of crop pests and diseases and their control also increases the yield of crops.

In wheat and barley: In these crops cutworm and termites are the only important pests. These can be controlled by the use of Gammexine or D. D. T. and by the use of Crude oil in irrigation water.

Rust and Smut (both loose and covered smuts) are very harmful and damaging wheat and barley. They can be effectively controlled in the following ways:—

1) Use of disease resistant varieties,

2) Roguing and burning the diseased plants at an early stage.

Dusting with sulpher is also effective in the early stage.

Gram:- Two important pests (1) gram cut-worm and (2) gram podborer attack this crop. They can be controlled by the use of Sodium flusilicate, Guesrol 505. For effective control the nearest authorities or experts of the department of Agriculture like the District Agri. officer, or Asstt. Director oi Agriculture or the Plant Protection officer should be approched.

It is susceptible to wilt and blight diseases. The effective methods of their control are: (a) Use of disease resistant varieties and (b) Roguing and burning of the diseased plants.

Jowar:-It is attacked by the following pests: Jowar Stem borer, Deccan Wingless grass hopper, Katra Hairy Caterpillor, and Jowar ear bug.

For Jowar Stem borer the affected plants should be destroyed and burnt in the early stage. For Deccan Wingless Grasshopper dusting with 10% BHC at the rate of 20 Lbs. per acre will be very effective. For checking the Katra Hairy Caterpillor spraying with 25% D. D. T.

emulsion diluted at the rate of 12½ lbs. in 100 gallons of water should be done. For controlling the Jowar ear Bug dusting with 5% BHC will give good results.

Jowar is also attacked by a parasite weed *Striga* – which draws nutrition from the plant through Jowar roots. It is called *Agia* in Hindi, *Agio* in Gujrati and *Tarfula* in Marathi. It can be effectively controlled by spraying the crop with o. 1% solution of 2,4–D preparation like "Fernoxone", "Agrosone". "Dicotox", "Weedox" or "Shell" 2, 4–D at the rate of 100 gallons per acre.

This crop is susceptible to smut disease. For controlling this disease the seeds should be treated with "Agrosone" GN and Sulphur and the diseased plants should be uprooted and burnt.

Cultivation followed on the above lines, no doubt would increase the yield.. But to make the Campaign more effective and successful, we have to turn every stone. Every farmer, farmleader and experts are required to co-operate actively and participate in it with all earnestness. The Government agencies are required to make available all the necessary technical guidance and supplies like seeds, manures, insecticides, weedicides etc. on the spot, as and when required. Technically qualified persons from Agricultural Colleges, Research Institutions, Extension Training Centres, with the help of their students can do a lot, if they are made to take active part in this programme along with the staff of the Community Development and National Extension Service Blocks.

MANURIAL REQUIREMENTS & RESOURCES OF RAJASTHAN

By : **R. M. SINCH**

RAJASTHAN is the second largest State in India occupying a geographical area of about 84,407 thousand acres (according to village papers) with a total population of about 1,59,70,757. It has surprisingly enough as low density as 6 in Jaisalmer compared to as high as 290 in Bharatpur District with an average of 121 persons per square mile. Out of the total geographical area, 50.97% is culturable including the current follow to an extent of 17.44% and 37.53% the net cropped area (1955–56). The cultivated area in India is estimated at 41% of the total geographical area as against 50.97% in Rajasthan giving rise to per capita net area sown about 2.54 acres, being approximatly three times the average of India (0.90 acre).

Thus, the position in regard to these is not bad, but the average production per unit area does not compare favourably with other States in India, much too less in comparision with high yields in other Countries. Although two third of the total population is engaged in agricultural productions, still the yields are proverbially low. The causes of low yields are mainly : (i) Very low acreage under irrigation (11.83% of the cultivated area) and (ii) lack of proper manuring. Together with this are other reasons such as absence of suitable improved varieties, less protection against damages caused by insect, pests and diseases and primitive implements being used by the most cultivators which account for low yields.

The two basic essentials of crop production are irrigation and manuring. In aerid and semi-aerid regions irrigation is one of the limiting factors of crop production. If provisions of irrigation alone are made crop yields can be increased, at least, by 100 percent. But the provision of irrigation in itself is a difficult task, for instance, in the North and North-Western Rajasthan where ample quantity of water is not available in wells even at a depth of 100 or 150 ft. If at all available, it is not of good quality for irrigation (mostly saline) and also for human and animal consumption. But wherever possible efforts are being made to increase the area under irrigation. The targets for the Second Five Year Plan envisage additional area under irrigation through various sources aimed at 1,708 thousand acres which may provide opportunity of taking double crops without taking the additional land under plough.

Under the present system of agriculture irrespective of irrigated and rainfed conditions, every year the soil is exhausted of its store of plant food nutrients rendering soils gradually impoverished. Since the soil is just like a bank wherefrom the continuous withdrawal will lead to bankruptcy if the withdrawal is not replenished through occasional deposits. The tillers of the land in Rajasthan usually supply food nutrients in the form of their home-made manure (F. Y. M.) to some of the cash crops like sugarcane, potatoes, and vegetable crops and very occasionally to food crops like Maize, Bajra, Juar, wheat etc. which are the staple food of the millions in India. Such crops are allowed to grow on the potential fertility of the soil or to take the advantage of the residual manures, if any, from the previous application to cash crops, for instance, wheat is grown after sugarcane, tobacco after potatoes and so on.

Requirements

Considering the heavy need for nutrients to produce a normal crop, it becomes imperative to visualize the loss of plant food nutrients every year from the soil since the dawn of civilization which has reached to a point where further loss of nutrients may result in uneconomic crop production. In order to produce a good crop the soil has to be kept permanently productive which can be done only through manuring. The question may arise as to what quantity of manure should be added to the field to restore the fertility ? This may depend upon: (a) The climatic conditions of the area, (b) The kind of crop grown and rotations followed, (c) Season of crop growth, and (d) Soil, its physical and chemical properties.

The climatic conditions remaining constant nutrient requirements of the crops depend upon other three factors. A crop rotation that includes all exhaustive crops, will reduce the fertility soon, but it can be maintained if adequate manuring is resorted to. Clean cultivation, under the sub-tropical semi-arid conditions, tends to oxidise the organic matter of the soil which may lead to undesirable physical and chemical conditions resulting in decreased crop producing power of the soil. In order to safeguard against this danger, a proper schedule of manuring suitable under the conditions of the locality has to be followed to keep the land permanently productive. To aim at finding the total nutrient requirement of the cultivated land in Rajasthan an estimate of the nutrient requirements are given in the following table :—

Table I.

An estimate of the total nutrient requirements in terms of N, P_2O_5 and K_2O

Name of crops	Acreage ('ooo acres)	Plant food required per acre (in lb.) N	P_2O_5	K_2O	Total Plant food required ('ooo, tons.) N	P_2O_5	K_2O
Bajra	8,868	32	20	59	127	79	234
Juar	2,150	50	16	65	48	15	62
Wheat	3,279	50	21	60	73	31	88
Maize	1,230	32	21	35	18	12	19
Barley	1,445	37	18	31	24	13	20
Small Millets	186	30	20	60	2	2	5
Rice	228	30	20	60	3	2	6
Sugarcane	82	90	180	300	3	6	11
Chillies	50	30	50	60	1	1	2
Potato	3	60	60	80	–	–	1
Oil seeds	2,278	20	10	80	20	10	80
Cotton	542	55	30	82	12	7	20
Tobacco	21	40	20	80	1	—	2
Pulses	7,392	—	20	40	—	66	132
Total					332	244	682

The estimates show that the fertilizer ingredients amount to 332 thousand tons N, 244 thousand tons P 205 and 682 thousand tons K20.

A proper schedule of manuring in any climatic-zone of Rajasthan will need a balanced supply of nutrients from organic manures as well as inorganic fertilizers. In order to achieve this end supply of nutrients in a ratio of 2 : 1 in terms of N should be aimed at through organic and inorganic sources respectively. Thus the total requirement of N and the Corresponding figure of organic manure and inorganic fertilizer are given in the following table :

Table II.

Amount of N to be Supplied Through Organic Inorganic Sources In 2 : 1 on the basis of N and the Corresponding Figure of F. Y. M. and Amm. Sulphate :

Sources	Nitrogen ('000 tons)	F. Y. M. in '000, tons (at ·5%N)	Am. Sulph. in '000, tons (at 20% N
Organic	222	44,400	—
Inorganic	110	—	550
Total	322	44,400	550

The F. Y. M. besides supplying N will also supply simultaneously P_2O_5 and K_2O. The total quantities of these which may be available through F. Y. M. are given below :-

Table III

Quantities of fertilizing ingredients : available through F. Y. M. at 0. 5% N, 0. 25% P_2O_5 and 0. 5% K_2O of constituents :

Source	Quantity '000, tons	Quantities of ingredients in '000 tons N	P_2O_5	K_2O
F.Y.M.	44,400	222	111	222

Manurial Resources :

Invariably the cultivators collect excrements voided by domesticated animals and house sweepings and occasionally rubbish or farm refuse. The materials are piled in heaps or pits near the residences and are allowed to stay there for nearly six months or one year until they are taken out and carted in few fields where the cash crops are to be sown. The quantities, thus piled and used as manure to the field are invariably too inadequate to meet the requirement of the crops. The reasons are apparent: (i) Cattle urine containing valuable fertilizing ingredients are normally wasted but never collected and used, (ii) dung being used as fuel cakes prepared out of it at least to an extent of 35 to 40 %. (iii) Other organic residues are hardly used in the form of bedding to cattle which can preserve urine and increase the value and quantity of manure, and (iv) little care being taken in preserving the collected material during storage–heavy losses due to wash out and rapid oxidation caused by exposure etc. If the total excrements are properly collected, using dry vegetation like straw, grass, sugarcane leaves, chopped cotton sticks, tree leaves etc. as bedding to soak up the urine properly and finally preserving these in a suitable pit for decomposition, will yield enough organic manure for use. The quantity of excrements which can be collected and preserved will necessarily depend upon the population of animals and their feeding. Animal population are given in the following table where they are converted into cattle population each having 500 lb. body weight at least.

Table IV Animal population with their population converted into cattle.

Class of Animal	Population	Equivalent cattle population	No. of animals equivalent to one cattle.
Cattle	1,20,72,713	1,20,72,713	1
Baffaloes	34,39,449	34,39,449	1
Horses, ponies, mules etc.	7,39,865	7,39,865	1
Sheep, goats & Pigs.	1,61,74,998	16,17,500	10
Poultry	4,57,394	4,574	100
Total	—	1,78,74,101	

Considering that each cattle will produce about 10 lbs. of excrements per day, the total quantity of manure available would be 80,000 tons per day amounting to 2,92,00,000 tons per year. During storage decomposition processes remain active which result in the loss of organic matter from 20 to 50 percent on fresh weight basis depending upon the care taken during handling and storage. If properly stored and allowed to decompose under an aerobic con–

dition, such losses will amount to nearly 25% of the stored material, As such the net quantity of manure ready for use will amount to 2,19,00,000 tons. This manure will also supply P_2O_5 and K_2O along with N. The quantities of these are estimated in the following table.

Table V. Quantities of fertilizer ingredients available from F. Y. M.

Quantity of F.Y.M. '000 tons	Quantity of ingredients in '000 tons.		
	N	P_2O_5	K_2O
21,900	110	55	110

Organic matter and its constituents are also supplied in the form of green manures in Rajasthan but to a negligible extent about which the relevant information is lacking.

Balance sheet :

Organic manures :—Considering the requirements and the resources of fertilizing elements it is obvious that the present resources are too inadequate :

Table VI. Comparison of requirement and available nutrients from F.Y.M.

Class	F.Y.M. '000 tons	Nutrient elements '000 tons		
		N	P_2O_5	K_2O
Requirement	44,400	222	111	222
Available	21,900	110	55	110
Deficit	22,500	112	56	112

The figures indicate that the available quantity of manure to be used in just half of the requisite amount. This necessitates the rapid increase in the production of other organic manures apart from reducing the heavy losses of F.Y.M. and its nutrients during storage. This can be done effectively through: (i) increase in the production of farm compost using materials other than animal excrements, (ii) increase in the production of town compost in all towns, (iii) Use of oil cakes as far as possible, and (iv) Use of green manures as far as possible especially in irrigated tracts.

If all these methods are resorted to, the deficit of F. Y. M. and its constituents can easily be made up.

Fertilizers :

Apart from the nitrogenous manures and fertilizers phosphatic and potassic fertilizers are needed in very huge quantities as shown in Table I. The required amount of Amm. Sulphate has already been estimated in Table II. The phosphatic and fertilizers are estimated in Table VII.

Table VII.

Comparison of the total requirement and available P_2O_5 and K_2O through F. Y. M.

Category	P_2O_5 '000 tons		K_2O '000 tons	
	Ingredient	Super phosp	K_2O	Sulpt. of Pot
Requirement	244	1,464	682	1,364
Available through F.Y.M. (T. II)	111	666	222	444
Deficit	133	798	460	920

The figures indicate that apart from the supply of P_2O_5 and K_2O through F. Y. M. an additional supply of 798 thousand tons of Super phosphate (Single) and 920 thousand tons of Sulphate of potash should be made available to meet the full requirement of the crops grown without reducing the productive power of the soil. Although little information regarding the responses of crops to applications of phosphatic and potassic fertilizers in Rajasthan is available and particularly when the potash content of the Sandy tracts of Rajasthan is expected to be high, yet in order to maintain a proper balance of absorbed nutrients in

plant body and to leave the land in a productive condition, application of requisite amount of fertilizers as shown above must be made to soils. Since the use of the chemical fertilizers is very limited in this State it requires planned research, demonstration and propaganda among the cultivators to encourage the extensive use. Of course other requisites like moisture availability through rains and its conservation, irrigation if possible and application of manures at proper stage of crop growth will have to be taken into account.

LIVESTOCK IN INDIA

By: **S. SITARAM**

THE importance of cattle in connection with Indian Agriculture can never be exaggerated. In the villages cattle play a vital part. The cattle supply the motive power for almost all agricultural operations such as ploughing, lifting water from wells and the transportation of agricultural produce to the markets and provide manure. The agriculturist does not stop with that. He lets the cattle for hire and thus supplements his meagre income. No wonder such a condition has prompted Sir M. Darling to observe that in India without cattle fields remain unploughed, store and bin stand empty, and food and drink lose ½ their savour, for in a vegetarian country, what can be worse than to have no milk, butter or ghee.

Yet the livestock affair in India is far from satisfactory. By a modest estimate it should be mentioned that the present position of our cattle, in the context of their paramount importance to Indian Agriculture is deplorable. With the increasing popularity of the cultivation of commercial crops, the majority of farmers have come to regard animal husbandry as an accident of agriculture rather than as an integral part of it. Unlike in other parts of the globe where cattle are maintained mainly for milk and meat, in India their main purpose is draught for the plough or the cart. The continuous extension of cultivation has reduced the amount of grazing land available and consequently an overwhelming majority of Indian cattle are small-sized, ill-fed and inefficient. A comparative study between America and India will substantiate this view. For instance U. S. A. with 58 million cattle produce 10,380 million gallons of milk while India with 215 million cattle produce only 6,400 million gallons of milk. That shows how backward we are in extracting the maximum benefit.

The first thing that catches the eye of a casual observer regarding Indian cattle is the large number of economically costly abundant cattle our country is forced to maintain. The ratio of cattle to net sown area per 100 acres is unduly high in India, when compared with other countries.

Per 100 acres net sown area :

India	67 cattle
Holland	38 ,,
Egypt	25 ,,

The productive capacity of the cattle in India is not commensurate with their numbers. As a matter of fact, the large numbers of underfed cattle pose a problem and are a serious drain on country's limited foodder supply. The logical result is they eat into the profits from agriculture. Such a situation has set in motion a

vicious circle. Their poor quality forces the farmer to keep large number of bullocks and this large number does not permit a healthy growth due to scarcity of fodder. Since they are reared up on deficient fodder supply, they inevitably grow weak.

To remedy the situation we need not necessarily look for a magic wand by which all the cattle can be turned into hefty size overnight. The panacea lies in our own hand. It is a paradox that in a land where cows are worshipped and lifted almost to the status of a Goddess, they should also be so totally neglected. Instances are not wanting to show that farmers feed the cattle in a haphazard manner. Their economic condition does not allow them to buy sufficient fodder for the cattle. In relation to the supplies available 1/3 of the cattle population could be regarded as being surplus. Left to themselves the cattle graze on cultivation lands unauthorised.

The importance of cattle from the monetary aspect should not escape our notice. As much as Rs. 1500 crores out of the total National Income are contributed by the Livestock. But even more important is the potential value of cattle to regenaration of Indian Agriculture. In India there is little scope for extensive cultivation. Hence any attempt to improve agriculture hinges on one matter viz. intensive cultivation. Intensive cultivation aims at increasing the yield of produce per acre and one of the ways to achieve this aim is the introduction of good system of crop rotation which would assist the soil to improve or at least retain its fertility. It is here the cattle play a vital role. All the manure can be utilised for cultivation available by the dovetailing of arable land and animal husbandry. Therefore we would be safe in commenting that agricultural prosperity in India is inextricably bound up with a policy of cattle improvement.

The steps to be taken for cattle improvement should run along two parallel lines. Firstly the number of working bullocks the farmer has to maintain should be reduced by an increase in their efficiency. This will minimise the pressure on fodder supply as bigger and healthy cattle consume less food in proportion to their size than smaller cattle and turn out much more work. Secondly more and more attention should be diverted to the development and upkeep of milch cattle.

These objectives are within easy reach once measures are undertaken to secure a better breeding on scientific lines and a better system of veterinary aid to reduce the incidence of diseases among livestock. At present in India these steps are in the infant stage. More and more Veterinary Hospitals should spring up for the development of livestock.

A large net work of artificial insemination centres will promote better and healthy breeding. Careful and selective breeding should be keynote of any programme.

Unless and until a keen attention is focused on these lines, the livestock situation will continue to deteriorate. Both on moral and material grounds, every effort should be made to feed the cattle sufficiently. Indian Agriculture, if it is to survive, cannot afford to underrate the significance of a fair–deal for the cattle.

BEE KEEPING IN INDIA

By: **NAUTAMLAL C. TEJPAL**

UPTIL now the bee-keeping in our country remains simply a childish play inspite of all the jargons to prove its scientific nature.

Bee-keeping was introduced in India by the European Missionaries half a century ago, and yet, not only no further research has been made or introduced till now, but the people in whose hands the Government has put the public money for the development of the industry are so orthodox that they refuse to introduce the modern technique in the industry. They keep on advertising that all one has to do is to keep a hive and then the honey will begin to flow from it. They have not the least idea beyond that.

Lately, I saw in Madhya Bharat and Saurashtra that the bee-hives barely produce 10 lbs. of honey per season. While in America a bee-hive is producing as much as 220 lbs per season, which means 440 lbs per year, and they are able to sell at 20 cent (about 15 annas) per. lb, while our rate is Rs. 2/- per lb.

Have we got the bee-keepers map of India, though the Government through The Khadi & V. I. Board is spending lacs of Rupees for the development of the industry? The valleys of Himalaya would be an ideal place for the industry. The valley abound in natural flora and the climate too is suitable for the vigorous type of bee. Further all the land which is served by canal waters and keeps green throughout the year. So it is imperative that the bee-keepers map of India showing the place most suitable for bee-keeping from points of view of flora and climate should be prepared.

The concentrated development in the valleys of Himalaya would give us about the same quantity of honey as in America e. i. 400 lbs per year. And only five bee-hives would give an annual income of Rs. 2000 to a villager; and such income would tempt any one without any expensive advertisement or Government subsidy. Instead we are trying to build houses on sand, establishing the Bee-colonies at the cost of the public in places where there is no natural environment to produce honey or due to orthodoxy we are afraid to introduce better strain of good bees.

Our first aim should be to have an organisation for raising prolific queens. What have we done about that and we are afraid to bring prolific queens from outside; but no one is prepared to bring the foreign bees and get them acclimatised in India. America bought from India Hariana bulls and by cross breeding brought out fine Brahmas cow, because in the dry area of America, they wanted type of cattle suitable to breed in hot and dry climate. They found the climate of Punjab similar to their district climate and imported Hariana bulls of Punjab. Why cannot we bring bees from the same area of America where our Hariana bulls are taken for breeding? And establish the same in the canal area of Punjab.

It should be noted that the plain type of bees have been developed and domesticated in South India, where there is too much humidity, so the bees are small and poor yielding, as in the case of cows of South India which also are small, stunted and poor milk yielders. Due to humid climate if the cows of Saurashtra or Punjab are taken to S. India, they will die or yiled very little milk. But when the bees from South India or Bengal are taken to the dry climate of Saurashtra or Madhya Bharat, they fail as in the case of cows.

Now I give the instance of Egypt and how they have developed the bee-keeping there. I was in Egypt about 20 years back and was keeping bees as all our neighbours there.

Egypt is a flat desert country without any forest or hills, but the Nile valley is green throughout the year. So the bee-keeping has become a normal occupation of the villagers there. Every cotton field is found dotted with the bee-hives, and this is one of the reasons for the highest yield of cotton per acre in

the world. The climate of Egypt is dry like Punjab and Rajasthan with a little humidity during the winter. The average yield per hive is 200 lbs. per year, while the professional bee-keepers who tend more than 100 hives obtain as much as 400 lbs per year by the modern type of hives. The bee-hives have bocome so much popular and part of the their eeonomy that they are given in doweries during the marriages.

In Egypt there are 2 types of bees, one imported from Europe and the other is the cross-breed of the native Egyptian and Czecoslovakian. The yield of the imported is more than 400 lbs per annum, and the yield of the cross-breed is about 250 lbs. The cross-breed is very vigorous and healthy, and they are generally kept by the farmers in native type of hives, which are simply earthen pots, built like a wall with their open mouths on sides of the wall. The inside of the pots is coated with wax and honey to attract the bees inside. We can successfully introduce this cross-breed bees in India where the climate is dry and there is greenary throughout the year due to canal irrigation. In Egypt during the summer the maximum heat is as much as 115F.

The Egyptian Government Agricultural department keeps a regular supply of Czechoslovakian qeen bees and sells the same at cost.

Bee-keeping developmen & Organisation in Egypt:—The Standard impliments and certified qeens as well as the healthy bee colonies are supplied to the tnterested parties at cost by the Government Department. By simply sending an application, a complete colony with impliments at cost are delivered at the door of the applicant. An instructor would come to you with a hive, will fix the same at a suitable place and will instruct you how to handle the bees. By paying Rs. 2/–per month or half the yield of the honey for the first year and one fourth share the following years, he will visit you regu!arly once a week for the first 6 months to teach you all the method of bee keeping. You can ask him to visit as long you wish, but within a couple of months one can know the technique. The instructor is a deploma holder, who controls about 100 hives a month. In big towns he visits on cycle while in the villages he moves on a donkey from field to field. Thus he makes about Rs. 200 income per month. The Government has not to pay anything to such instructors. He is simply a self-employed man.

Honey is extracted every six months, at the beginning and at the end of the cotton season. The bees get the forage from the cotton flowers and after cotton they get from the flowers of Alfafa or Barsim which is grown there widely as cattle fodder, since there are no natural grass pastures. The colour and the flavour of the honey of the different seasons are different.

For extracting honey we can again get the services of the instructor who would charge about one anna per lb. of honey extracted. Further if one wishes to multiply the hive during the swarming season one can get the services of the instructor for a fee. Almost in every village there are government bee-stations or co-operatives who help to establish, develop the industry and market the honey.

We have in India some similar system for the private cow keepers in towns, a Gowal for milking and grazing the cow comes regularly at fixed wages.

The price of Honey in Egypt is about 12 annas per lb. so it is used as regular diet, and every good cafe or tea house would serve milk to their clients with honey instead of sugar. The common people also use the honey as we use Ghee. Honey is also sold with beeswax which is much cheaper, the beeswax is considered as a good intestine lubricant.

A farmer would not go out of his village to learn the bee-keeping. The above system is to go to the farmer to teach without any cost to the government. We have many unemployed people who could be easily given the diploma course in bee-keeping and who would earn about Rs. 200 per month in their own villages. For this a National deploma course of bee-keeping should be instituted.

In the beginning there should be preliminary research in order to adopt the

most suitable types of bees for every climatic condition. It is not the money or even the technic which suceeds, but the proper organisation in such matters. And no amount of subsidy could help this industry, but as soon as the villager sees that the work is simple and paying, he will be tempted to take it up seriously. So to find out the prolific queen should be our main aim.

SINEWS OF MADHYA PRADESH

By : **JOYTI P. SAXENA**

MADHYA pradesh, the second largest State of the Indian Union and the scene of many of its ancient and distinctive civilizations, is a land of great potentials. Rich and varied mineral resources of Chhattisgarh and Vindhya, vast tracts of fertile land in the Malwa plateau, enormous forest wealth, huge rivers–they all make it a real economic force to reckon with. But as ill-luck would have it, these vast natural resources of the State have not been able to wipe off the poverty of its 26.1 million souls. Evidently, Madhya Pradesh is a rich State inhabited by poor people. And this is partly due to foreign domination and the arm of political injustice which puts a brake on every economic adjustment attempted in the country, and partly due to a cluster of errors of judgement on our own part.

These are our colossal deposits of minerals—minerals of Chhattisgarh and Vindhya. But what has been done there amounts merely to the scratching of the surface. The result is that great supplies of iron, coal, manganese, bauxite etc., still lie buried which, if exploited, could easily sustain a number of steel works like Bhilai, large aluminium works, cement factories and chemical industries in the State and make it the industrial centre of the country. But this is possible only if something is resolved to be done in this direction. Otherwise, these huge stocks of iron and coal will remain lying idle beneath the earth, manganese and bauxite will be crossing our frontiers and we will remain cursing ourselves for our own doings as is the case today. A bare Bhilai and a single Kaimur is not all that we aspire for. Something more, and much more, is expected in this field.

And then our forest wealth–India's largest–which is important in its own way. Covering about 30 percent of the total area of the State these forests of sal, tendu, sagon, bamboo, babool, palas etc., are virtually a boon to us as 'they hold together the fertile surface of the soil; they store water and dole it out gradually, thus preventing disastrous floods and the formation of ravines; by checking erosion they prevent good soil from being washed into the rivers, and carried away to waste. They also directly increase the fertility of land, being capable of forming rich vegetable mould even from mineral soils....and are a valuable asset in times of famine; for they yield vast quantities of fodder and provide edible fruits and roots'. Besides this, they also lead to the establishment of useful industries like Paper and Shellock–industries for which lot of material and human facilities exist in this State. That is why the Nepa Mills shine like the brightest star on the industrial sky of India. What is needed today is the establishment of miniature Nepas throughout the length and breadth of the State. And this will mean greater production, greater wealth, greater welfare.

Industrialization embodies censtralisation—an evil of no less intensity in a country like India which lives and works in her villages. This brings small-scale and cottage industries to the fore, for while we believe that the industrial progress of India will depend and must depend on the growth of heavy industry, we have always to remember that unless we balance that with the growth of cottage industry, we will produce an unbalanced structure which may crack and fall

down.' Fortunately, we have a network of these industries throughout the length and breadth of the State of which 'saris' of Chanderi, embroidery of Bhopal, toys of Gwalior and Rewa and brasswares and furniture of Chhatarpur have earned a reputation for them even beyond the frontiers of the State. Other prominent industries are spinning and weaving, blanket weaving, blacksmithy and manufacture of agricultural implements, goldsmithy, biri-making, dyeing and printing, tanning etc., which represent our traditional skill and craft. But the question today is not of their number ; it is of their development–all–out development. It is in this perspective that we have to judge them and their role in a developing economy under the objective of socialistic pattern of society. The State Government has done a Yeoman's job in assisting these industries financially and by other commendable means, but what is even more important is a thorough and sincere survey of their past and present position so that ways and means could be devised for their all round development. Then and then alone we will be able to resuscitate some of the dead and dying industries ; then and then alone we will be able to set the smooth-running industries on a firmer footing.

This brings us to the most precious of all our natural resources–about three and a half crore acres of farm land where almost all the crops are raised. Cotton, oil-seeds, sugarcane and other cash crops are grown in abundance here. In the production of 'jowar', Madhya Pradesh leads the rest of the Indian States. To supplement it, we also raise large crops of wheat, gram, rice etc., which make us, more or less, self-sufficient in this field. And this too when only 5 percent of the total farm land is under irrigation and when vast tracts are lying idle in the north ; and this too when most of the holdings in the State are uneconomic and the amount of labour and capital employed in them is just meagre. It is evident from the above facts that if our culturable waste are utilized to the full, scattered and sub-divided holdings are consolidated, irrigational and other facilities are extended, we may increase our food-production by many times. It is estimated that Chambal alone would irrigate more than 12 lakh acres of our dry and parched land. And fortunately we have so many Chambals in our State–the Narbada, the Mahanadi, the Betwa, the Ken, the Dhasan, the Son and so on, which, if properly harnessed, will provide irrigational facilities to our thirsty fields and at the same time create water–power for abundant and inexpensive electricity for industrial and domestic use.

But when all has been said it remains to be said that our dream of a fully-developed State can never be realized unless the means of transport and communications are fully developed, because in proportion to its area, the State is rather inadequately served by rail or road routes. It has a distressing road mileage of 15,217 miles which means 0.0893 mile of road per sq. mile. Equally intriguing is the problem of railways. What is essential, therefore, is spreading a network of roads and rails linking various parts of the State as they are the necessary per–requisites to our progress and upon their adequacy and fullness will depend the richness and fullness of the lives of its population.

In a nutshell, Madhya Pradesh is a rich State; sufficiently rich. What is needed is a wise, careful and planned development of its natural resources. Then and then alone we can raise the living-standards of our people and convert natural resources into a real source of economic power.

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